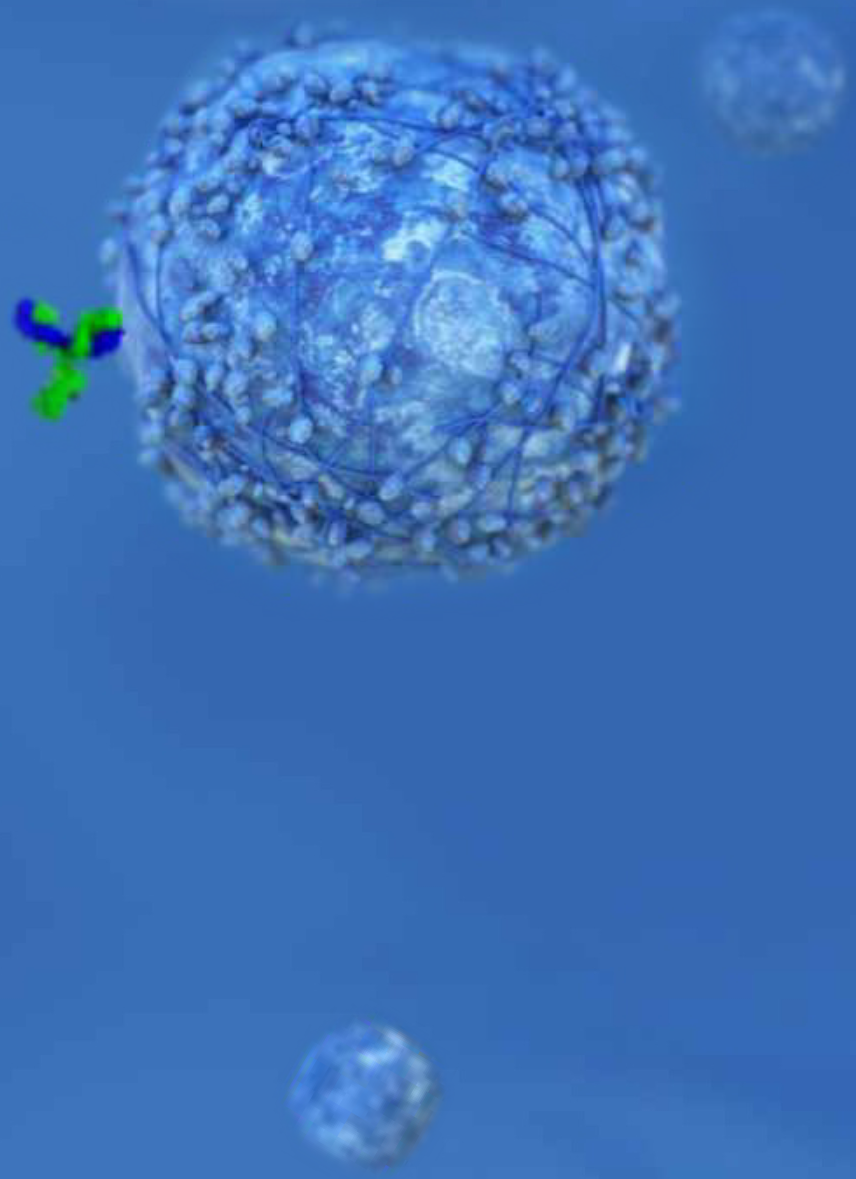


2022 KOL Discussion of STRO-002 Phase 1 Interim Dose Expansion Data

January 5, 2022
5:00pm ET / 2:00pm PT

Sutro Biopharma
NASDAQ: STRO

Forward Looking Statements

This presentation and the accompanying oral presentation contain “forward-looking” statements that are based on our management’s beliefs and assumptions and on information currently available to management. Forward-looking statements include all statements other than statements of historical fact contained in this presentation, including information concerning our future financial performance, business plans and objectives, current and future clinical activities, timing and success of our ongoing and planned clinical trials and related data, updates and results of our clinical trials and related data, timing and success of our planned development activities, our ability to obtain and maintain regulatory approval, the potential therapeutic benefits and economic value of our product candidates, potential growth opportunities, financing plans, competitive position, industry environment and potential market opportunities.

Forward-looking statements are subject to known and unknown risks, uncertainties, assumptions and other factors, including risks and uncertainties related to our cash forecasts, our and our collaborators’ ability to advance our product candidates, the receipt and timing of potential regulatory submissions, designations, approvals and commercialization of product candidates, the timing and results of preclinical and clinical trials, and the expected impact of the COVID-19 pandemic on our operations. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. These factors, together with those that may be described in greater detail under the heading “Risk Factors” contained in our most recent Annual Report on Form 10-K, Quarterly Report on Form 10-Q and other reports the company files from time to time with the Securities and Exchange Commission, may cause our actual results, performance or achievements to differ materially and adversely from those anticipated or implied by our forward-looking statements.

You should not rely upon forward-looking statements as predictions of future events. Although our management believes that the expectations reflected in our forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances described in the forward-looking statements will be achieved or occur. Moreover, neither we nor our management assume responsibility for the accuracy and completeness of the forward-looking statements. We undertake no obligation to publicly update any forward-looking statements for any reason after the date of this presentation to conform these statements to actual results or to changes in our expectations, except as required by law.

This presentation also contains estimates and other statistical data made by independent parties and by us relating to market size and growth and other data about our industry. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. In addition, projections, assumptions, and estimates of our future performance and the future performance of the markets in which we operate are necessarily subject to a high degree of uncertainty and risk.

Today's Agenda
January 5, 2022

Topic	Speakers
Opening Comments	
Welcome & Agenda Review Forward-Looking Statements	**Ed Albini,** Chief Financial Officer
CEO Opening Comments Study Objectives and Overview	**Bill Newell,** Chief Executive Officer
Data Presentation	
Study Objectives and Overview STRO-002 Phase 1 Dose Expansion Interim Data	**R. Wendel Naumann, M.D.,** Professor & Director of Gynecologic Oncology Research, Associate Medical Director of Clinical Trials, at Levine Cancer Institute, Atrium Health **Arturo Molina, M.D., MS, FACP,** Chief Medical Officer
Summary Next Steps for STRO-002	**Arturo Molina, M.D., MS, FACP**
Closing	**Bill Newell**
Q&A	
	R. Wendel Naumann, M.D. **Bill Newell** **Arturo Molina, M.D., MS, FACP** **Trevor Hallam, Ph.D.,** President of Research and Chief Scientific Officer **Ed Albini**

Welcome Dr. R. Wendel Naumann

Phase 1 STRO-002-GM1 Co-Principal Investigator

R. Wendel Naumann, M.D.

Professor & Director of Gynecologic Oncology Research
Associate Medical Director of Clinical Trials,
Levine Cancer Institute, Atrium Health
Sutro Biopharma Clinical Advisory Board

Dr. Naumann is currently the Director of Minimally Invasive Surgery in Gynecologic Oncology and Professor in the Department of Ob/Gyn at the Levine Cancer Institute, Atrium Health.

Dr. Naumann did his residency in Obstetrics and Gynecology as well as his fellowship in Gynecologic Oncology at the University of Alabama School of Medicine in Birmingham.

Dr. Naumann has served as a board member on the Executive Council of the Society of Gynecologic Oncology (SGO) and the Chair of Education Committee and is currently the co-director of the SGO Winter meeting.

He has an interest in chemotherapy development including targeted therapies and immune therapies and runs the phase I trials in gynecologic oncology at the Levine Cancer Institute. He has served as a member of the GOG/NRG corpus committee and the Developmental Therapeutics committee.

Patient Characteristics in Dose Expansion Cohort

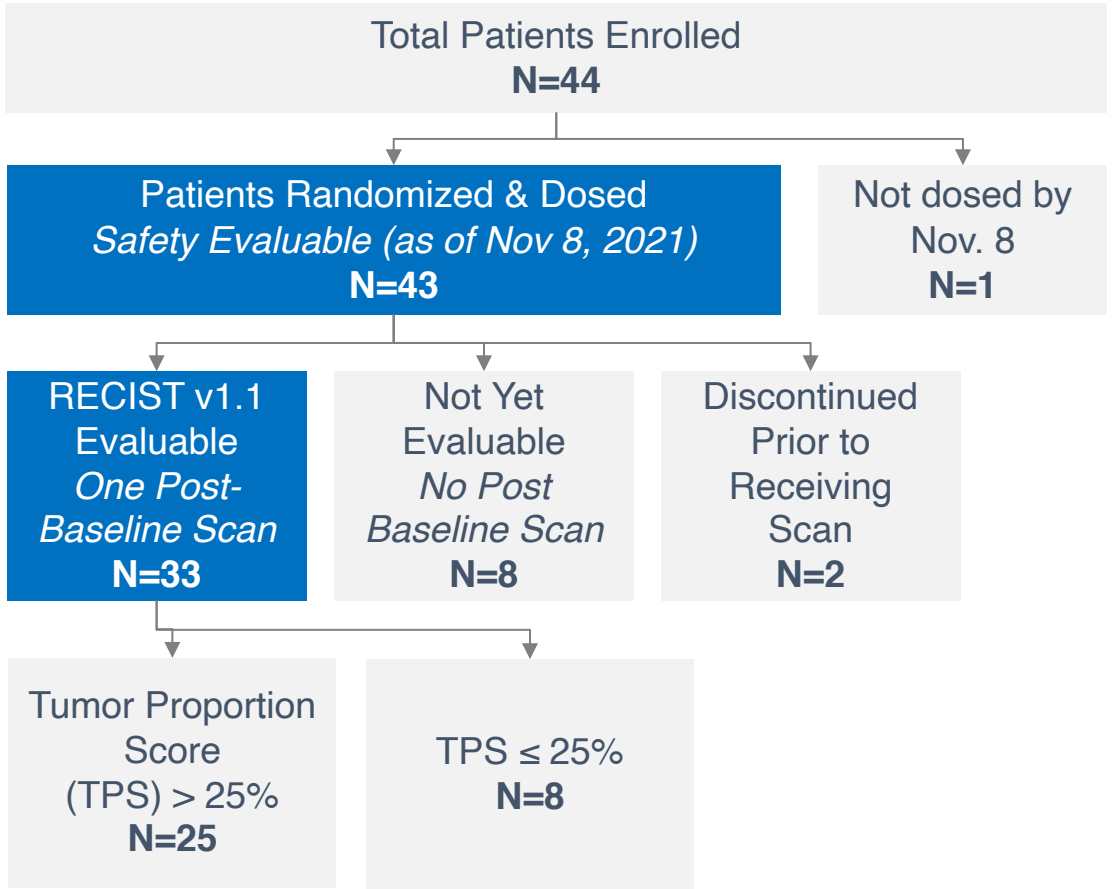
Interim data for dose expansion are as of November 8, 2021

STRO 002
Dose Expansion

Patient Baseline Characteristics

Ovarian Cancer Patients	Randomized Dose Levels 4.3 mg/kg N=23	Randomized Dose Levels 5.2 mg/kg N=20	Total N=43
Median age, years (range)	63 (39–91)	56 (40–72)	60 (39–91)
Median time since diagnosis, years (range)	1.8 (0.9–4.4)	2.9 (0.7–5.1)	2.8 (0.7–5.1)
Number of prior lines of therapy			
Median	3.0	2.0	2.0
Mean (St. Dev.)	2.5 (0.95)	2.5 (1.05)	2.5 (0.98)
Previous Therapies, n (%)			
bevacizumab	13 (57%)	14 (70%)	27 (63%)
PARP Inhibitor	15 (65%)	13 (65%)	28 (65%)

Patient Status as of November 8, 2021



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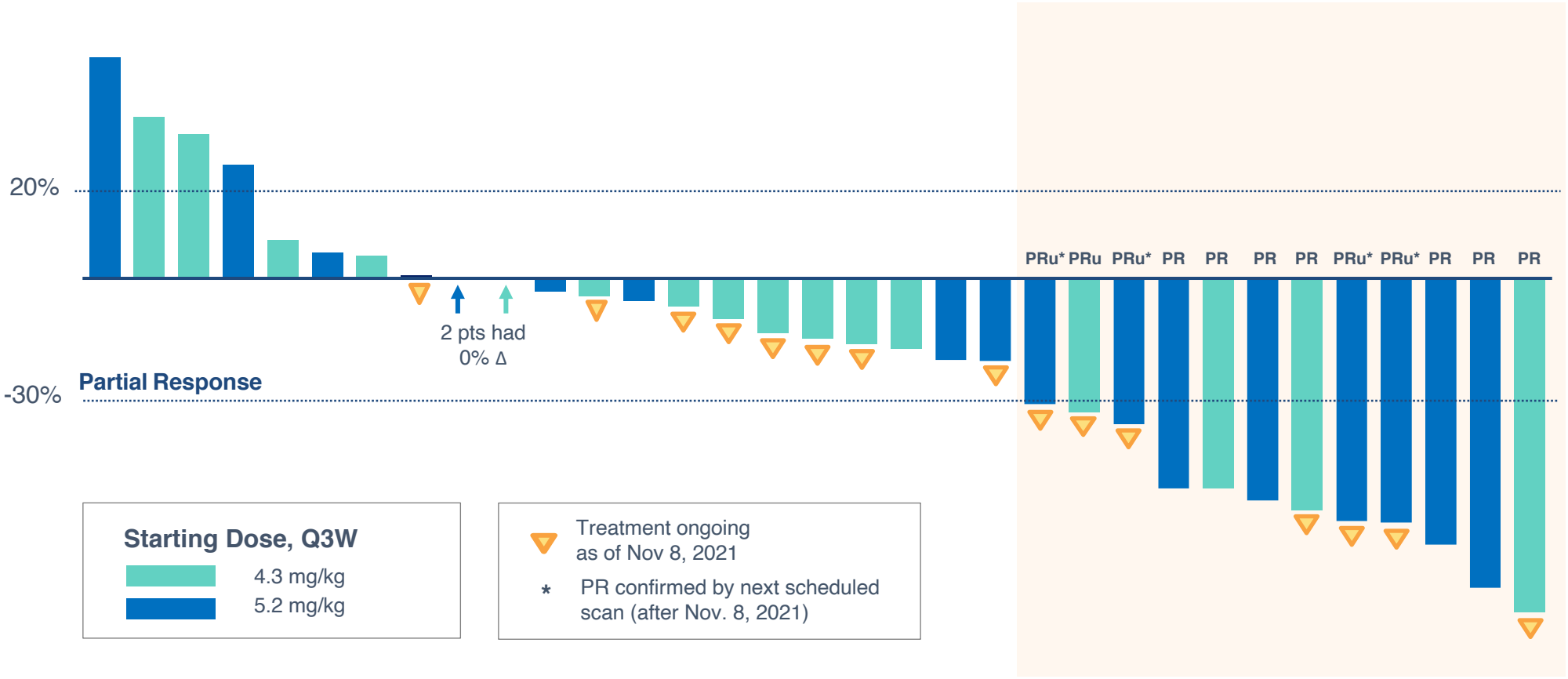
Dose Response Demonstrated

Interim data suggest that 5.2 mg/kg starting dose leads to higher response rates

STRO 002
Dose Expansion

Maximum Change in Tumor Target Lesions (N=33)



Note: Data as of Nov. 8, 2021. 5 PRu were of interest and followed up subsequent to the data cutoff date. 4 PR confirmed at their next scheduled scan and 1 was SD.

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Objective Response by RECIST v1.1

33% ORR rate in all 33 evaluable patients, unenriched for FolRα expression

STRO 002
Dose Expansion

Best Overall Response (BOR)	Starting Dose 4.3 mg/kg	5.2 mg/kg	All Comers
Evaluable patients	**N=16**	**N=17**	**N=33**
PR	**3**	**4**	**7**
PR confirmed by next scheduled scan post Nov. 8, 2021	**0**	**4**	**4**
Total PR	**3**	**8**	**11**
ORR (%)	***18.8%***	***47.1%***	***33.3%***
SD	10	4	14
PD	3	5	8

- **47.1% ORR** in patients starting at the 5.2 mg/kg dose level
- **33.3% ORR** in all patients
- Interim data suggests that 5.2 mg/kg **starting dose leads to higher response rates**
- All 4 patients with PRu treated at 5.2 mg/kg were subsequently confirmed at the next scheduled scan

Note: Data as of Nov. 8, 2021. 5 PRu were of interest and followed up subsequent to the data cutoff date. 4 PR confirmed at their next scheduled scan and 1 was SD.

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Robust Anti-tumor Activity and Disease Control Demonstrated

Responders experienced rapid tumor reduction or a steady deepening of response

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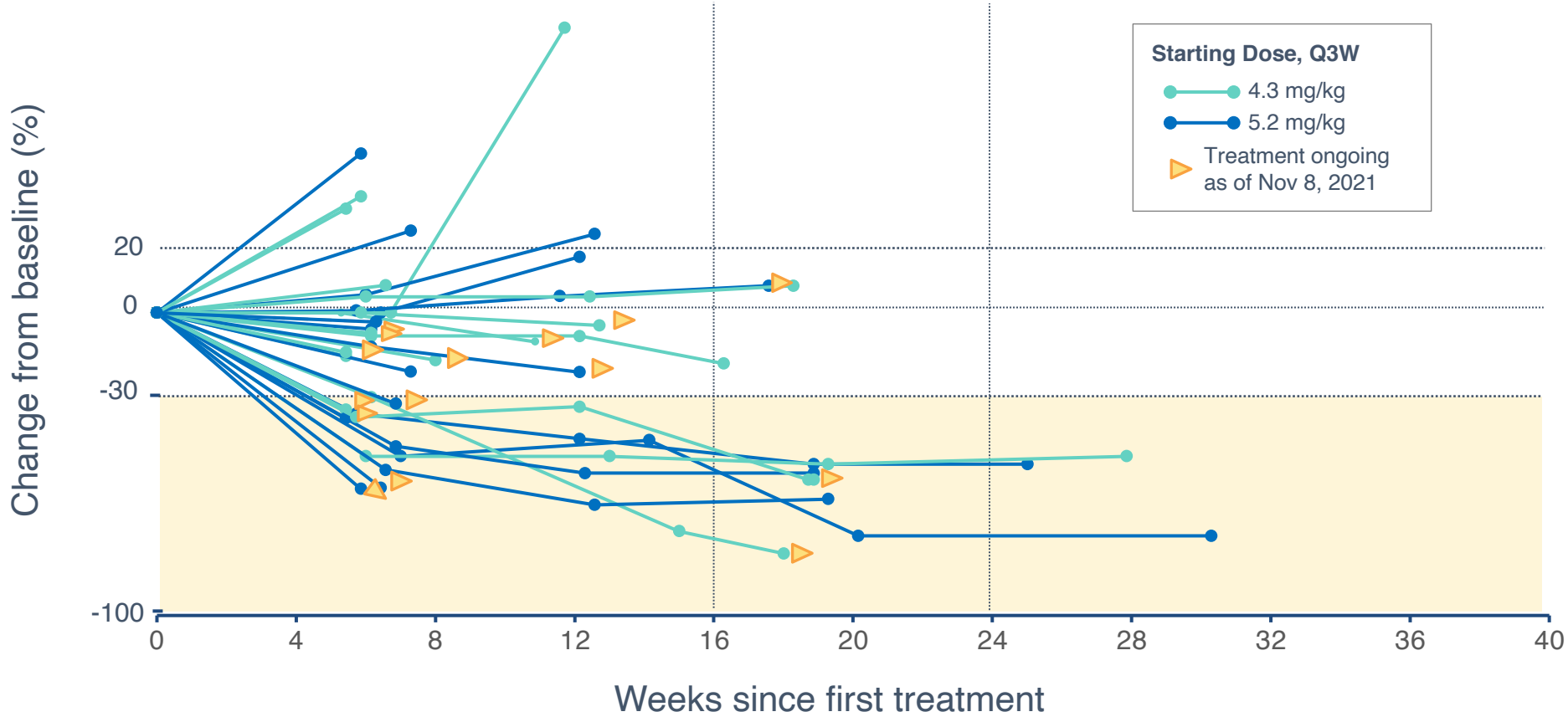
Dose Expansion

Change in Sum of Diameters for Target Lesions Over Time (N=33)



Note: Data as of Nov. 8, 2021.

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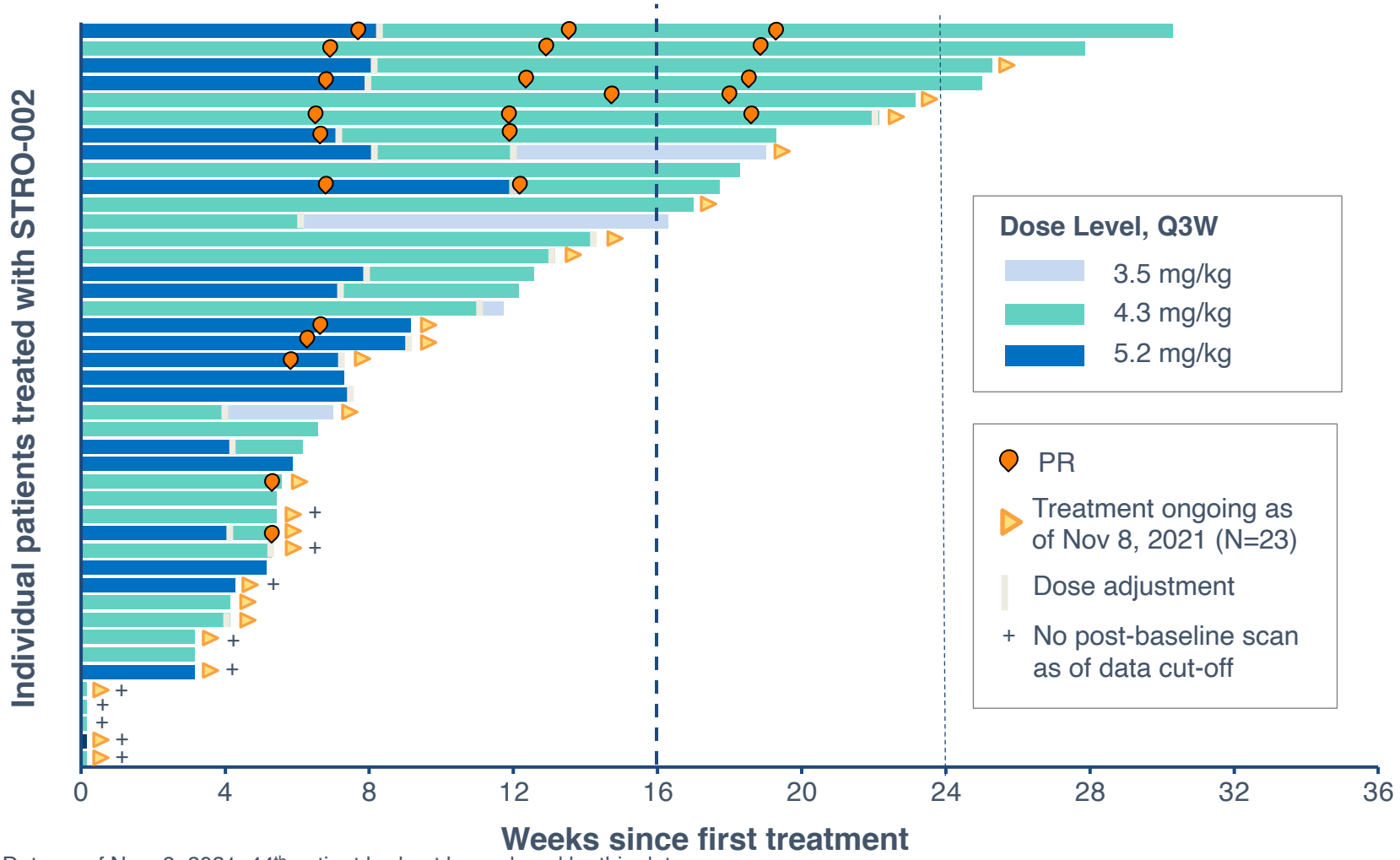
Encouraging Response Rates and Preliminary Data on Durability

Interim data suggest initiating with 5.2 mg/kg followed by a dose adjustment

STRO 002
Dose Expansion

Treatment Duration on Patients with at Least One Dose (N=43)



Initial data show **partial responses confirmed & maintained** following dose adjustment

Median Duration of Response has not been reached and **23 of 43 patients remained** on study at Nov. 8, 2021

Data to inform **RP2D with final decision pending more data maturity**

Note: Data as of Nov. 8, 2021. 44th patient had not been dosed by this date.

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Platinum-Resistant Ovarian Cancer Patient Treated at 4.3 mg/kg Dose Level

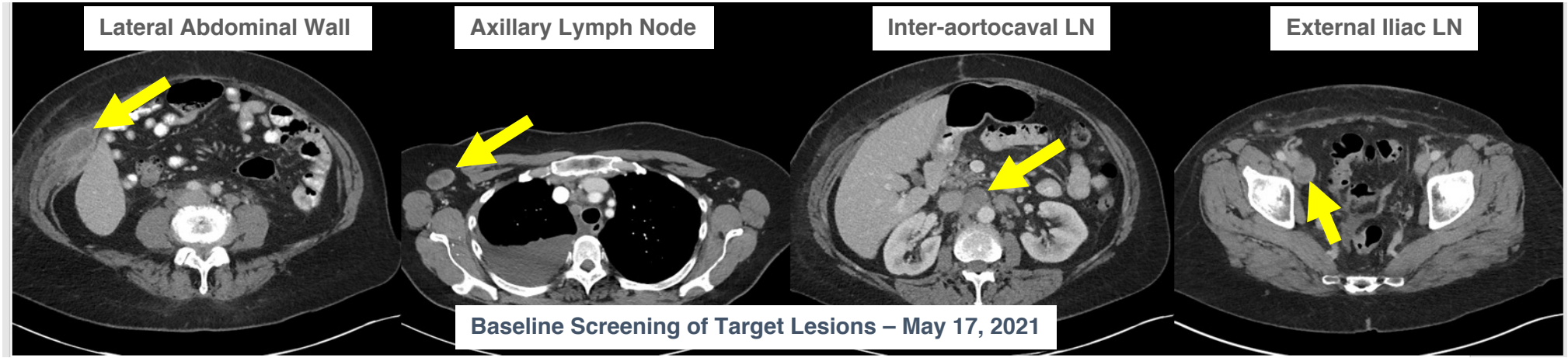
Ongoing Partial Response with 72% reduction in tumor burden

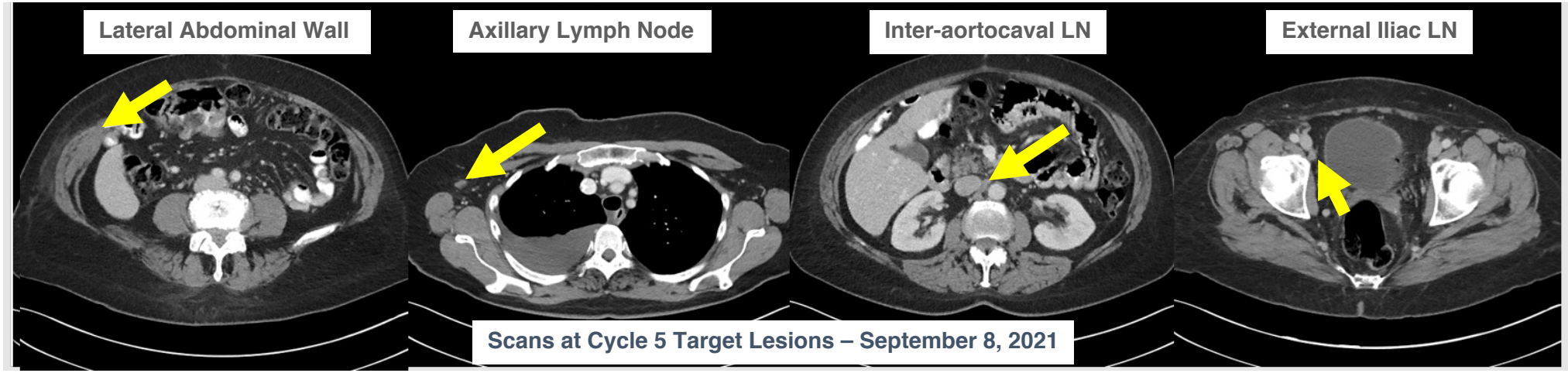
STRO 002
Dose Expansion

Initial diagnosis: **Stage IV ovarian cancer**, Jan 2020

3 Prior Regimens:
Resistant to 1st Neoadjuvant / adjuvant Carbo / Taxol / Taxotere

Refractory to 2nd and 3rd with progressive disease
- Liposomal doxorubicin
- Gemcitabine





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TPS Identified as Scoring Algorithm Appropriate for STRO-002

Exploratory analysis suggests TPS > 25% correlated with higher response

ORR by TPS Expression Levels (Total Samples N=33)

TPS	Overall	TPS ≤ 25%	TPS > 25%	TPS > 50%	TPS > 75%
ORR	33.3%	12.5%	40.0%	42.1%	43.8%
Number of patient samples	N=33	N=8	N=25	N=19	N=16
PR(1)	11	1	10	8	7
Potential Market Size (%)	*100%*	*~ 30%*	*~ 70%*		

TPS > 25% suggests ~**70% of the patient population** may benefit from STRO-002

Tumor Proportion Score (TPS)

- Percent of tumor cells showing **staining of any intensity**
- Does not require analysis of intensity levels and **easy to score**
- **Commonly used** in clinical practice
- **Established reproducibility** across different biomarkers (e.g., PD-L1)

(1) PR classification includes the 4 of 5 patients who were confirmed by their next scheduled scan after Nov. 8, 2021.
Note: Data as of Nov. 8, 2021.

Emerging Safety Profile is Manageable and Consistent with Prior Studies

No new safety signals were observed, including the absence of keratopathy

STRO 002
Dose Expansion

Most Common G3+ TEAEs (≥2 Subjects) by Dose

	4.3 mg/Kg (N=23)			5.2 mg/Kg (N=20)			Total (N=43)		
	Grade 3 n (%)	Grade 4 n (%)	Grade 5 n (%)	Grade 3 n (%)	Grade 4 n (%)	Grade 5 n (%)	Grade 3 n (%)	Grade 4 n (%)	Grade 5 n (%)
Subjects reporting at least 1 event	**13 (57)**	**4 (17)**	**0**	**8 (40)**	**8 (40)**	**1 (5)**	**21 (48)**	**12 (28)**	**1 (2)**
Neutropenia (1)	10 (44)	4 (17)	0	6 (30)	8 (40)	1 (5)	16 (37)	12 (28)	1 (2)
Febrile Neutropenia	*1 (2)*	*0*	*0*	*0*	*0*	*1 (5)*	*1 (2)*	*0*	*1 (2)*
White blood cell count decreased	4 (17)	1 (4)	0	1 (5)	2 (10)	0	5 (12)	3 (7)	0
Anemia	1 (4)	0	0	3 (15)	0	0	4 (9)	0	0
Arthralgia	4 (17)	0	0	0	0	0	4 (9)	0	0
Diarrhea	2 (9)	0	0	0	1 (5)	0	2 (5)	1 (2)	0
Platelet count decreased	2 (9)	0	0	1 (5)	0	0	3 (7)	0	0
Thrombocytopenia	0	0	0	2 (10)	0	0	2 (8)	0	0
Vomiting	0	0	0	2 (10)	0	0	2 (8)	0	0
Fatigue	2 (9)	0	0	0	0	0	2 (8)	0	0
Activated partial thromboplastin time prolonged	2 (9)	0	0	0	0	0	2 (8)	0	0
Hyponatremia	2 (9)	0	0	0	0	0	2 (8)	0	0
Neuralgia	2 (9)	0	0	0	0	0	2 (8)	0	0
Acute kidney injury	0	0	0	2 (10)	0	0	2 (8)	0	0

Neutropenia was the leading TEAE, resulting in treatment delay or dose reduction

- Neutropenia resolved with **1 week delay ± G-CSF**, in the majority of cases
- **Febrile neutropenia is rare**
  - One Grade 5 event at the 5.2 mg/kg dose cohort
  - One Grade 3 event at the 4.3 mg/kg dose cohort
- **Protocol was updated** to require dose reduction for Grade 4 neutropenia
- **Dose reductions ameliorated neutropenia**

(1) Neutropenia included the following preferred terms: neutropenia, febrile neutropenia, and neutrophil count decreased.
Note: Data as of Nov. 8, 2021.

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Dose Expansion Data Provide Initial Insights on Go-Forward Strategy

Emerging data show dose response and a path for potential enrichment strategy

STRO 002

Dose Expansion

Overall Efficacy

Total of **11 confirmed PR** [(1)] out of **33 RECIST v1.1 evaluable** patients

33% ORR, across **all FolRα expression levels and both dose levels**

Dose Response

Dose response was demonstrated

47% ORR (8/17)[(1)] in unenriched patients starting at the 5.2 mg/kg dose level

Initial data suggests **responses at 5.2 mg/kg are maintained**, even when subsequent dose reductions are implemented

Biomarker

Using **TPS,** interim data suggests **> 25% expression levels** are correlated with higher clinically meaningful response rate, with **40% ORR** (10/25)[(1)] observed in both dose levels and an enriched patient population

Based on our patient observations, we believe STRO-002 may be an appropriate therapy for **~70% of these patients**

Safety

No new safety signals were observed, including the absence of keratopathy

Neutropenia was the leading TEAE, resulting in treatment delay or dose reduction

Protocol was updated to require dose reduction for Grade 4 neutropenia

(1) PR classification includes the 4 of 5 patients who were confirmed by their next scheduled scan after Nov. 8, 2021.
Note: Data as of Nov. 8, 2021.

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Expanding the STRO-002 Franchise

Additional clinical studies in ovarian & endometrial, and nonclinical work on other tumor types

Ovarian Cancer

Dose-escalation cohort
39 patients, enrollment completed August 2020

Dose-expansion cohort
44 patients enrolled in US and Spain sites, **enrollment completed November 2021**

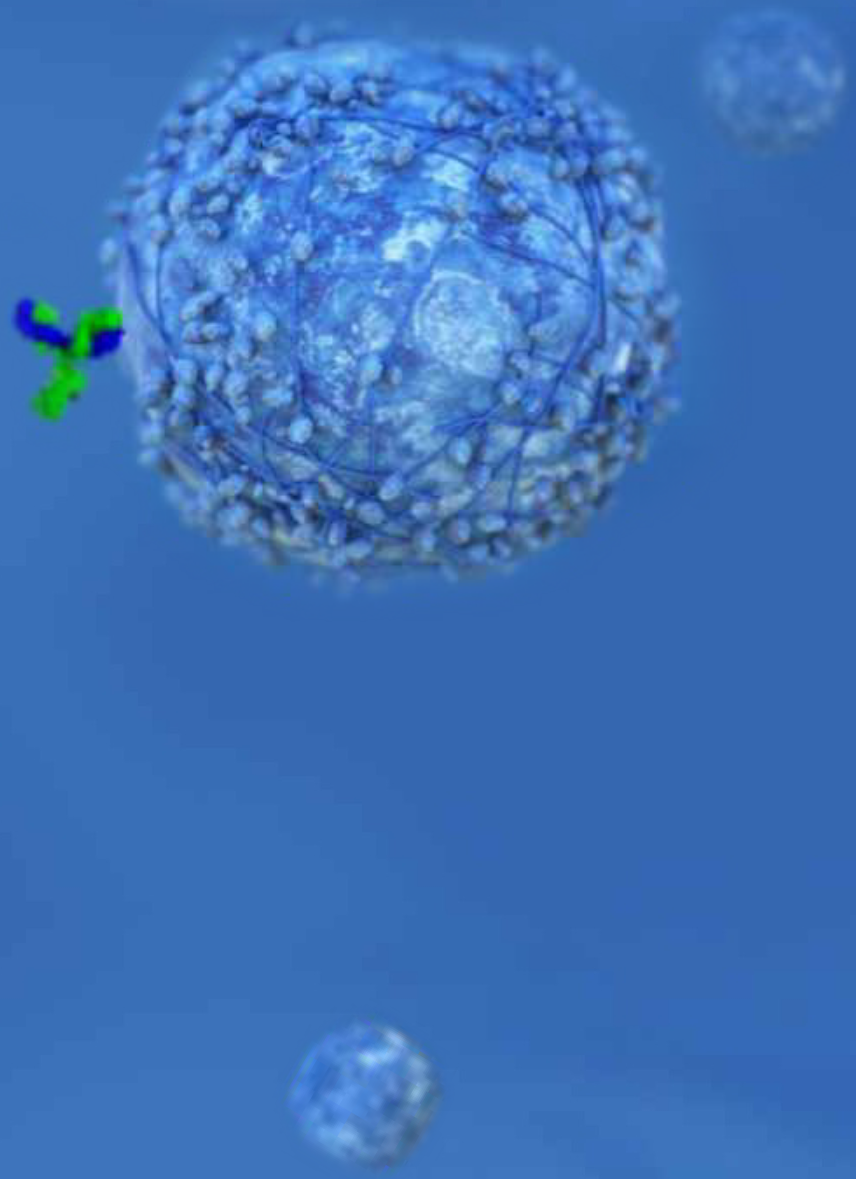
Combo study with bevacizumab
Trial is open and enrolling patients
FPI planned for early 2022

Registration-directed trial
Pending FDA EOP1 meeting
Precedent from single-arm registration-directed trial in advanced ovarian cancer

Other Solid Tumors

Endometrial cancer cohort
Initial enrollment planned for ~15 patients
FPI December 2021
Cohort is open and enrolling patients

NSCLC and Other Tumors
Potential for a basket study design with other FolRα expressing cancers
Nonclinical work ongoing



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